

REMARKS

This Amendment is in response to the Final Official Action mailed September 21, 2007. The Examiner set a shortened statutory period for reply of three (3) months, making the present Amendment due by December 21, 2007.

In the present paper, no amendments are made. Claims 1-3, 5-10 and 15-24 are presented for the Examiner's consideration.

Claim Rejections

In the Final Official Action, the Examiner has rejected all the claims in the case under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 7,033,142 to Conrad et al. ("Conrad") in view of a machine translation of Japanese Patent Application Publication No. 2004-147454 ("Toshiaki"). The Applicant respectfully traverses those rejections and requests that the Examiner reconsider the position taken in the Final Official Action in light of the following.

Exemplary claim 1 requires measuring a vibration generated by a second pump, and producing in a first pump a vibration that is anti-phase to the measured vibration. In other words, the vibration produced in a first pump is anti-phase to a vibration generated by a second pump.

The combination made by the Examiner does not contain or suggest any teaching to produce in one pump a vibration that is anti-phase to a vibration generated in another pump.

The Examiner cites Conrad as teaching a turbomolecular pump directly connected to another pump. The Examiner correctly admits that Conrad does not disclose measuring a vibration outside the pump, and does not disclose producing a second vibration in opposition to the first vibration. Indeed, Conrad does not recognize vibration as a problem, and never mentions vibration.

The Examiner alleges that the Toshiaki reference teaches producing in a pump a vibration that is out of phase with a measured first vibration. The Examiner does not allege that the measured vibration of Toshiaki is generated by another pump. The Examiner furthermore does not allege that Toshiaki teaches producing in one pump a vibration that is out-of phase with a vibration generated in a second pump.

Even though those elements are not alleged to be present in either of the cited references, the Examiner alleges that those elements are present in the combination:

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Conrad with Toshiaki in order to negate any undesirable vibration (detailed description, para. [0004]), including vibration that may result from outside the pump as taught by Toshiaki, such as the intermediate pump of Conrad.

Final Official Action of 09/21/2007, at 3-4.

Applicant asserts that the Examiner has incorrectly interpreted combination of Conrad and Toshiaki as teaching the negation of “any undesirable vibration,” and the negation of “vibration that may result from outside the pump.” In fact, Toshiaki is concerned with vibration originating in the turbomolecular pump. The paragraph [0004] of Toshiaki cited by the Examiner above, upon which the Examiner’s interpretation relies, reads as follows:

[0004] Although vibration which was told from the stator of a magnetic bearing and which is not desirable existed in the connection of a rotary machine and use equipment equipped with active mold magnetic bearing equipment in short, there was a problem that this vibration could not be controlled, by the control approach of conventional active mold magnetic bearing equipment. In addition, as for use equipment, a rotary machine says equipments, such as an electron microscope used, on these specifications.

Machine Translation of Toshiaki at 3/22. Nothing in the cited paragraph (or elsewhere in the reference) suggests vibrations originating anywhere but in the turbomolecular pump itself. Note that the term “rotary machine” (or “rotating machine”) is unambiguously defined in the Abstract as that machine containing the active bearings; i.e., the turbomolecular pump.

Conrad merely adds an intermediate pump to that system. Conrad does not teach the measurement of or compensation for vibrations originating in an intermediate pump.

In response to the Applicant’s Remarks of July 16, 2007, the Examiner has stated,

While Toshiaki does not teach that the first vibration is produced by a second pump, it does not exclude the plausibility that the vibration is caused by a second pump, as the applicant contends. Therefore, in the combination with Conrad whereby an intermediate backing pump is in direct contact with a turbomolecular pump similar to that of Toshiaki, it would have been obvious as argued above that the intermediate pump would produce vibrations in the course of normal operation and that modifying the system of Conrad with the teachings of Toshiaki would improve the overall system.

Final Official Action at 4-5.

Applicant initially notes that the fact that a reference “does not exclude the plausibility” of an element, does not infer that that reference teaches that element. If such were the rule, then any reference could be interpreted to teach all things not specifically excluded from plausibility. In the present case, while the Toshiaki reference does not exclude the plausibility of vibration from ANY source, that reference cannot be reasonably said to teach vibration from ALL sources.

Furthermore, even if, in the combination, “the intermediate pump would produce vibrations in the course of normal operation,” as argued by the Examiner, that does not necessarily result in the *measurement* of those vibrations produced by the intermediate pump, and does not necessarily result in *producing* in another pump vibrations that are *anti-phase* with those vibrations, as required by the claims. Those elements are simply not present in the cited references, and are not present in the combination.

Applicant further asserts that each of the independent claims in the case contains one or more of the limitations discussed above, and is therefore patentable at least for the same reasons as exemplary claim 1.

### Conclusion

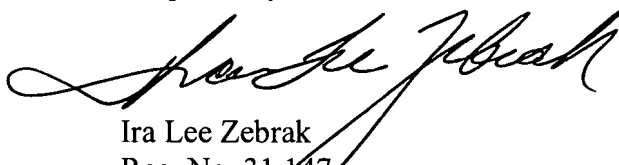
Applicant therefore asserts that pending claims 1-3, 5-10 and 15-24 are in condition for allowance, and earnestly requests that the Examiner issue a Notice of Allowance.

Should the Examiner have any questions regarding the present case, the Examiner should not hesitate in contacting the undersigned at the number provided below.

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Nov 20, 2007  
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Respectfully submitted,

  
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